

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT

APPLICANTS:

Aström et al.

CONFIRMATION NO.: 6617

SERIAL NO.:

10/521,080

GROUP ART UNIT: 3762

FILED:

January 12, 2005

TITLE:

"APPARATUS FOR ANALYZING CARDIAC EVENTS" (As

Amended)

MAIL STOP AMENDMENT

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

SIR:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the following document be made during the course of examination of the above-referenced application for United States Letters Patent.

AA United States Patent No. 6,393,316

AB United States Patent No. 5,638,823

AC United States Patent No. 5,439,483

AD United States Patent No. 5,271,411

AL PCT Application WO 97/39681

AU "Improved Wavelet Packet Compression of Electrocardiogram Data, II: Coating of Compressor Output and QRS Clustering," Bradie, SPIEP Proceedings: Wavelet Applications in Signal and Image Processing IV, August 6-9, 1996, pages 812-821.

AV "Wavelet Transform Based Algorithms for EGM Morphology Discrimination For Implantable ICDs," Koyrakh et al, Computers In Cardiology, Vol. 26 (1999) pages 343-346.

AW "Clustering ECG Complexes Using Hermite Functions and Self-Organizing Maps," Lagerholm et al, IEEE Trans. On Biomedical Engineering, Vol. 47, No. 12 (July 2000) pages 838-848.

- AX "ECG Beat Recognition Using Fuzzy Hybrid Neural Network," Osowski et al, IEEE Trans. On Biomedical Engineering, Vol. 48, No. 11 (November 2001) Pages 1265-1271
- AY "Discrimination of Atrial Fibrillation From Regular Atrial Rhythm by Spatial Precision of Local Activation Direction," Schoenwald et al, IEEE Trans. On Biomedical Engineering, Vol. 44, No. 10 (October 1997) pages 958-963.
- AZ "Morphology Discrimination: A Beat-to-Beat Algorithm for the Discrimination of Ventricular from Supraventricular Tachycardia by Implantable Cardioverter Defibrillators," Grönefeld et al, J. Pacing Clin. Eectrophysiol., Vol. 24 (October 2001) pages 1519-1524.
- AU' "New Bayesian Discriminator for Dettection of Atrial Tachyarrthyhmias," Xu et al, Circulation, Vol. 105 (2002) pages 1472-1479.

EXPLANATION OF RELEVANCE

References AV, AW, AX, AY, AZ and AU' were identified and discussed in the present specification, and Applicants stand by the statements in the specification concerning the teachings of those references.

References AA, AB, AC, AD, AL, AU and AV were cited in the Search Report rendered during earlier examination of the present PCT application.

References AB, AD and AL were cited in a Search Report from the Swedish Patent Office rendered in connection with the counterpart Swedish application.

Copies of References AL and AU through Au', all of which are in English, are submitted herewith, together with Form 1449 on which all of the references are listed.

As of the date of mailing of this Information Disclosure Statement, a first Office Action on the merits has not been received in connection with this application, and therefore, this Information Disclosure Statement is in compliance with 37 C.F.R. §1.97(b)(3), and no fee is necessary.

All claims of the application are submitted to be patentable over the teachings of the above references, taken singly or in combination. Early consideration of the application is therefore respectfully requested.

Submitted by,

(Reg. 27,841)

SCHIFF, HÄRDIN LLP
CUSTOMER NO. 26574
Patent Department

Patent Department 6600 Sears Tower 233 South Wacker Drive Chicago, Illinois 60606 Telephone: 312/258-5790 Attorneys for Applicant.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on

August 15, 2005.

BRETT A. VALIQUET

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PTO-1449

Examiner

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(use several sheets if necessary)

Docket No. Serial No. 10/521,080 P04,0495 Applicants Aström et al. Group Art Unit Filing Date 3762

January 12, 2005

U.S. PATENT DOCUMENTS Examiner's Filing Date If **Document Number** Class Date Name Subclass Initials appropriate AA6,393,316 05/21/02 Gillberg et al. AB 5,638,823 06/17/97 Akay et al. AC 5,439,483 08/08/95 Duong-Van 5,271,411 AD 12/21/93 Ripley et al. AE AF AG AH ΑI FOREIGN PATENT DOCUMENTS Translation Document Number Date Country Class Subclass Yes No AL WO 97/39681 10/30/97 PCT AM AN AO AP OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.) AT ΑÜ "Improved Wavelet Packet Compression of Electrocardiogram Data, II: Coating of Compressor Output and ORS Clustering," Bradie, SPIEP Proceedings: Wavelet Applications in Signal and Image Processing IV, August 6-9, 1996, pages 812-821. ΑV "Wavelet Transform Based Algorithms for EGM Morphology Discrimination For Implantable ICDs," Koyrakh et al, Computers In Cardiology, Vol. 26 (1999) pages 343-AW "Clustering ECG Complexes Using Hermite Functions and Self-Organizing Maps." Lagerholm et al, IEEE Trans. On Biomedical Engineering, Vol. 47, No. 12 (July 2000) pages 838-848. AX "ECG Beat Recognition Using Fuzzy Hybrid Neural Network," Osowski et al, IEEE Trans. On Biomedical Engineering, Vol. 48, No. 11 (November 2001) Pages 1265-1271 "Discrimination of Atrial Fibrillation From Regular Atrial Rhythm by Spatial Precision of AY Local Activation Direction," Schoenwald et al, IEEE Trans. On Biomedical Engineering, Vol. 44, No. 10 (October 1997) pages 958-963. ΑZ "Morphology Discrimination: A Beat-to-Beat Algorithm for the Discrimination of Ventricular from

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Clin. Eectrophysiol., Vol. 24 (October 2001) pages 1519-1524.

Date Considered

Supraventricular Tachycardia by Implantable Cardioverter Defibrillators," Grönefeld et al, J. Pacing

Sheet 2 of 2 O-1449 Serial No. Docket No. P04,0495 10/521,080 INFORMATION DISCLOSURE CITATION Applicants IN AN APPLICATION Aström et al. (use several sheets if necessary) Group Art Unit Filing Date 3762 January 12, 2005 **U.S. PATENT DOCUMENTS** Examiner's Filing Date If **Document Number** Date Name Class Subclass Initials appropriate Gillberg et al. AA 6,393,316 05/21/02 AB 5,638,823 06/17/97 Akay et al. AC 5,439,483 08/08/95 **Duong-Van** AD 5,271,411 12/21/93 Ripley et al. AE AF AG AH ΑI FOREIGN PATENT DOCUMENTS Translation Document Number Date Country Class Subclass Yes No AL WO 97/39681 10/30/97 PCT AM AN AO AP

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
	AT	
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